Chapter 16

- 2 theories - collision theory (effective collision)
  - transition state theory
  - potential energy diagram
  - activation energy

Pot energy $E_p$ transition state

Factors that affect reaction rate:

1. Nature of reactant
2. Concentration of reactants
3. Temperature:
   $$k = Ae^{-\frac{E_a}{RT}}$$
4. Catalyst

Don't Memorize:

$$\log\left(\frac{k_2}{k_1}\right) = \frac{E_a (J)}{2.303R} \left(\frac{T_2 - T_1}{T_1 T_2}\right)$$

8.314 J/mol·K

Memorize:

$$\log\left(\frac{A_2}{A_1}\right) = \frac{-kt}{2.303}$$

or equivalent.